weight about 220 kD, the expected mass for a protein containing both the Sp128 and Sp130 sequences, indicating that this protein was present in all of the tested strains. Tested strains included isolates from each of the pneumococcal serotypes represented in the currently used 23-valent polysaccharide vaccine.

A1

Please amend the paragraph at page 13, lines 13-22, to read as follows:

The present invention is also directed to an antiserum produced by immunizing an animal with a polypeptide according to the invention. The invention also includes an isolated antibody that binds specifically to a polypeptide of the invention. Such an antibody may be a monoclonal antibody, possibly produced by a hybridoma cell line, and may also include a recombinantly produced antibody formed by introducing into a suitable cell line the gene sequences required for producing an antibody specific for the polypeptide vaccines disclosed herein.

A2

Please amend the paragraph at page 15, lines 10-27, to read as follows:

The immunogenic fragments of the polypeptide vaccines disclosed according to the invention will include immunogenic fragments of Sp128 (SEQ ID NO:6), which fragments can be readily screened for immunogenic activity, as well as immunogenic fragments of Sp130 (SEQ ID NO: 8). For example, in the amino acid sequence of Sp130, the fragment corresponding to residues 657 through 773 are known to provide about 40% protection versus the entire Sp130 sequence. Thus, the former fragment protects about 4 out of 10 mice challenged with *Streptococcus pneumoniae* versus 10 of 10 for the entire Sp130 sequence. Thus, specific fragment may include the fragments having amino acid sequences 650 – 773, 640 – 773, 630 – 773, 620 – 773, 610 – 773, 600 – 773, and similar fragments up to the entire Sp130 sequence (SEQ ID NO: 8). It is logical to presume that fragments of Sp128 (SEQ ID NO: 6) may provide similar degrees of

A3

A3 protection versus the entire Sp128 protein.

Please amend the paragraph at page 29, lines 9-15, to read as follows:

A4 The individually expressed polypeptides may be isolated by recombinant expression/isolation methods that are well-known in the art. Typical examples for such isolation may utilize an antibody to a conserved area of the protein or to a His tag or cleavable leader or tail that is expressed as part of the protein structure.

no lining through

Please amend the paragraph at page 34, lines 21-22, to read as follows:

A5 The pneumococcal strains used in this experiment were obtained from the American Type Culture Collection (10801 University Boulevard, Manassas, VA 20110-2209) and include one isolate from each of the serotypes in the currently used multivalent pneumococcal vaccine.

no lining through

Please amend the paragraph at page 35, lines 16-18, to read as follows:

A6 The rabbit anti-Sp130 sera revealed 2 major bands with apparent molecular weights of 110 kD and 220 kD in all 23 pneumococcal lysates tested (as shown in Figures 3A and 3B).

In the Claims:

Please cancel claim 2, 3 and 16.

Please amend the claims as follows:

## AMENDED SPECIFICATION

The paragraph at page 5, lines 11-21, has been amended as follows:

~~Figure 3 is~~ Figures 3A and 3B are a western blot showing reactivity of antisera raised against recombinant Sp130 (derived from strain Norway serotype 4) with whole cell lysates of heterologous strains. All *S. pneumoniae* strains tested showed a band of molecular weight about 220 kD, the expected mass for a protein containing both the Sp128 and Sp130 sequences, indicating that this protein was present in all of the tested strains. Tested strains included isolates from each of the pneumococcal serotypes represented in the currently used 23-valent polysaccharide vaccine.

The paragraph at page 13, lines 13-22, has been amended as follows:

The present invention is also directed to an antiserum produced by immunizing an animal with a polypeptide according to the invention. The invention also includes ~~and~~ an isolated antibody that binds specifically to a polypeptide of the invention. Such an antibody may be a monoclonal antibody, possibly produced by a hybridoma cell line, and may also include a recombinantly produced antibody formed by introducing into a suitable cell line the gene sequences required for producing an antibody specific for the polypeptide vaccines disclosed herein.

The paragraph at page 15, lines 10-27, has been amended as follows:

The immunogenic fragments of the polypeptide vaccines disclosed according to the invention will include immunogenic fragments of Sp128 (SEQ ID NO:6), which fragments can be readily screened for immunogenic activity, as well as immunogenic

fragments of Sp130 (SEQ ID NO: 8). For example, in the amino acid sequence of Sp130, the fragment corresponding to residues 657 through 773 are known to provide about 40% protection versus the entire Sp130 sequence. Thus, the former fragment protects about 4 out of 10 mice challenged with *Streptococcus pneumoniae* versus 10 of 10 for the entire Sp130 sequence. Thus, specific fragment may include the fragments having amino acid sequences 650 – 773, 640 – 773, 630 – 773, 620 – 773, 610 – 773, 600 – 773, and similar fragments up to the entire Sp130 sequence (SEQ ID NO: 8). It is logical to presume that fragments of Sp128 (SEQ ID NO: 6) may provide similar ~~degress~~ degrees of protection versus the entire Sp128 protein.

The paragraph at page 29, lines 9-15, has been amended as follows:

~~Procedures for the isolation of the~~ The individually expressed polypeptides may be isolated by recombinant expression/isolation methods that are well-known in the art. Typical examples for such isolation may utilize an antibody to a conserved area of the protein or to a His tag or cleavable leader or tail that is expressed as part of the protein structure.

The paragraph at page 34, lines 21-22, has been amended as follows:

The pneumococcal strains used in this experiment were obtained from the American Type Culture Collection (~~Rockville, MD~~ 10801 University Boulevard, Manassas, VA 20110-2209) and include one isolate from each of the serotypes in the currently used multivalent pneumococcal vaccine.

The paragraph at page 35, lines 16-18, has been amended as follows:

The rabbit anti-Sp130 sera revealed 2 major bands with apparent molecular